

REMARKS

This application has been carefully reviewed in light of the Office Action dated November 26, 2009. Claims 1 to 11 and 13 to 31 are pending in the application, of which Claims 1, 29 and 31 are independent. Reconsideration and further examination are respectfully requested.

Claims 1 to 28 were rejected under 35 U.S.C. § 101 because the claimed invention allegedly does not fall within one of the four statutory categories of invention. Without conceding the correctness of the rejection, Applicants have amended the method claims to clarify that the method is performed by a pattern identification device. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claim 31 was rejected under 35 U.S.C. § 101 because the claimed invention is allegedly directed to non-statutory subject matter. Without conceding the correctness of the rejection, Applicants have amended Claim 31 to clarify that the claim is directed to a computer-readable storage medium storing a pattern identification program. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

Claims 1 to 8 and 10 to 31 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 7,039,233 (Mori). Claim 8 was rejected under 35 U.S.C. § 103(a) over Mori in view of U.S. Patent No. 5,570,434 (Badique). Reconsideration and withdrawal of these rejections are respectfully requested.

Turning to specific claim language, amended independent Claim 1 is directed to a pattern identification method for hierarchically extracting features of input data, and identifying a pattern of the input data. The method is performed by a pattern identification device and includes a first feature extraction step of extracting features of a first layer; a determination step

of determining a model to be used for extracting features of a second layer higher than the first layer on the basis of feature extraction results in the first feature extraction step; and a second feature extraction step of extracting features of the second layer by using the model determined in the determination step.

Claim 29 is directed to a pattern identification device that implements the method of Claim 1 and Claim 32 is directed to a computer-readable storage medium storing a program used to implement the method of Claim 1.

Applicants respectfully submit that the applied reference, namely Mori, is not seen to disclose or to suggest all of the features of independent Claims 1, 29 and 31. In particular, Mori is not seen to disclose or to suggest at least the features of extracting the features of a first layer, determining a model to be used for extracting features of a second layer higher than the first layer is determined on the basis of the features extracted from the first layer, and features of a second layer are extracted by using the determined model.

In contrast to the present invention, Mori discloses detecting a lower feature in an image and detecting a higher feature from the detected result. These steps are repeated in order to recognize a predetermined pattern in an image. However, in Mori, no model is created from features extracted from the lower feature and used to detect the higher feature. Therefore, Mori fails to disclose or suggest determining a model used for extracting the features of the second layer higher than the first layer on the basis of the features extracted from the first layer.

Furthermore, Applicants have reviewed Badique and submit that nothing in Badique is found to cure the deficiencies of Mori. In particular, Badique discloses a circuit arrangement for recognizing a human face by analyzing barycentric position of the face area. However, Badique fails to disclose or suggest determining a model used for extracting the

features of the second layer higher than the first layer on the basis of the features extracted from the first layer.

In light of the deficiency of Mori as discussed above, Applicants submit that amended independent Claims 1, 29 and 31 are now in condition for allowance and respectfully request same.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed allowable for at least the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

CONCLUSION

No claim fees are believed due; however, should it be determined that additional claim fees are required, the Director is hereby authorized to charge such fees to Deposit Account 06-1205.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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